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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,145	03/19/2004	Tatsuo Ishikawa	Q80434	6391
23373	7590	05/12/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RESAN, STEVAN A	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,145

Applicant(s)

ISHIKAWA ET AL.

Examiner

Stevan A. Resan

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-19-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al US 2003/0152806 in view of Naoe et al US 6428884 and Okita et al US 4664965.

Murayama et al disclose a magnetic recording medium comprising a non magnetic support; an undercoat layer and a magnetic layer containing ferromagnetic powder and a binder.. Murayama also disclose a non magnetic layer as in claim 8 positioned between the magnetic layer and the undercoat layer. The thicknesses of the magnetic layer, the undercoat layer and non-magnetic layer overlap the thicknesses claimed in claims 1,4, 5, 9-11, [0064], [0067], [0072], [0085]-[0091]. Murayama et al also teach a binder containing polyurethane resin having a glass transition temperature of from 100-200 C as in claims 1,3 [0012] and the use of a backcoat layer [0078].

Murayama et al do not teach the use of ferromagnetic powder having an average particle size from 20 to 60 nm..

However Naoe et al teach a magnetic recording media having a magnetic layer with a thickness of 10-300nm with magnetic particles that are in a range of 20-150 nm overlapping the range of claims 1,6,7 (Col 2 lines 52-55).

Therefore, it would have been obvious to one of ordinary skill in the art to employ the particles of Naoe et al in the magnetic layer of Murayama et al in order to reduce

medium noise and improve C/N ratios (Col 2 lines 29-35), optimizing the particle size and layer thickness to maximize performance.

Murayama et al do not specify the exact composition of the undercoat layer employed to improve adhesion and the method of cure, nor a thickness range other than the example.

However, Okita et al teach the use of an undercoat layer overlapping the thickness range claimed in claim 2 and containing a compound polymerizable by radiation as in claim 1. (Col 4 lines 58-61; Col 6 line 2; Col 3 lines 12-15).

Therefore it would have been obvious to one of ordinary skill in the art to follow the teachings of Okita, (especially when the polyurethane binder of Murayama et al is radiation cured) in order to increase adhesiveness to the substrate. The compounds of Okita et al which are taught to be equivalent include those claimed in claim 15 (Col 3 lines 35-59) e.g. furyl acrylates).

Substitution of equivalents requires no express motivation since the prior art (Okita et al) recognize the equivalency.

In re Fount 213 USPQ 532 (CCPA 1982); In re Siebentritt 152 USPQ 618 (CCPA 1967); Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co. 85 USPQ 328 (USSC 1950).

3. Claims 12- 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al US 2003/0152806 in view of Naoe et al US 6428884 and Okita et al US 4664965 as applied to claim 1 in view of Akutsu.

Murayama et al while teaching that a backcoat layer may be employed in the magnetic recording medium does not teach specific compounds.

However Akutsu teach a backcoat layer in a thickness range of 0.1-1.5 microns containing carbon black and inorganic powder (Col 3 lines 40-41). Therefore it would have been obvious to one of ordinary skill in the art to use the backcoat of Akutsu to make the backcoat more durable as taught by Akutsu.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stevan A. Resan whose telephone number is 571-272-1513. The examiner can normally be reached on Tues-Thurs from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



STEVAN A. RESAN
PRIMARY EXAMINER